

WE CLAIM:

- 1 1. A device security method for verifying an authorized user, comprising:
2 storing an authorized user video image corresponding to authorized user identity data;
3 receiving a present user video image corresponding to user identity data;
4 determining image differences between the present user video image and the authorized
5 user video image; and
6 in response to the determination of image differences and to a difference threshold level,
7 determining whether to permit device usage.
- 1 2. The security method of claim 1, further comprising determining a quantity of the image
2 differences between the present user video image and the authorized user video image, and
3 disabling the device if the quantity of image differences exceeds the difference threshold level.
- 1 3. The security method of claim 1, wherein the authorized user video image is stored as first
2 digital pixel data into a first memory, and wherein the present user video image is stored as
3 second digital pixel data into a second memory, and wherein the quantity of image differences
4 are determined quantitatively between the first and second digital pixel data.
- 1 4. The security method of claim 1, wherein the present user video image and the authorized
2 user video image are each stored in MPEG4 format.
- 1 5. The security method of claim 1, wherein the authorized and present user video images are
2 each framed to include only the head and face portions of the user.
- 1 6. The security method of claim 1, wherein the authorized and present user video images are
2 scaled to the same proportions.
- 1 7. The security method of claim 1, wherein the device selected from the group of cellular
2 telephone, videophone, video conferencing equipment, vehicle, and passageway.

1 8. The security method of claim 1, further comprising storing the present user video image
2 in a present user video image log.

1 9. The security method of claim 1, further comprising transmitting the present user video
2 image to a monitoring station if the differences exceed the difference threshold level.

1 10. The security method of claim 1, further comprising requesting alternate authorization if
2 the differences exceed the difference threshold level.

1 11. The security method of claim 1, further comprising confirming motion within the present
2 user video image before determining quantity of image differences.

1 12. A video security apparatus, comprising:
2 a video image input means for producing a user video image;
3 a user video image digitizing means for creating a digital representation of the user video
4 image;
5 a user video reference image memory for storing at least one digital user video image as a
6 user video reference image;
7 a user video reference image control means for controlling access to the user video
8 reference image memory;
9 a comparison means for determining difference information between the user video
10 reference image and the user video image;
11 an authentication means for determining an identity mismatch from the difference
12 information; and
13 an output for communicating the identity mismatch.

1 13. The video security apparatus of claim 12, wherein the output communicates the identity
2 mismatch by transmitting the user video image to a monitoring station

1 14. The video security apparatus of claim 12, wherein the output communicates the identity
2 mismatch by disabling the image input means.

1 16. An interframe coding method for performing predictive coding using a stored authorized
2 user video image corresponding to authorized user identity data, comprising:
3 receiving a present user video image corresponding to user identity data;
4 communicating the authorized user video image to a remote video image receiver;
5 storing the authorized user video image at the remote video image receiver;
6 determining image difference information between the present user video image and the
7 authorized user video image;
8 transmitting the difference information to the remote video image receiver;
9 combining the authorized user video image and the difference information to form an
10 output user video image at the remote video image receiver; and
11 displaying the output user video image.

1 17. The coding method of claim 16, wherein the present user video image and the authorized
2 user video image are each framed to include only the head and face portions of the user.

1 18. The coding method of claim 17, wherein the image difference information is determined
2 only for selected portions of the authorized and present user video images.

1 19. The coding method of claim 18, wherein the selected portions include a mouth region and
2 an eyes region of the authorized and present user video images.

1 20. The coding method of claim 16, wherein the authorized identity data and the user identity
2 data are MPEG4 objects.